

Appl. N .: 09/981,511
Amdt. dated October 2, 2003
Reply to Office action of August 22, 2003

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

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1. (Previously Presented) A component restraint system that is used to secure an electronic component to a circuit board, comprising:
- a backing plate;
 - a post extending from said backing plate, said post having a plurality of stop surfaces;
 - a spring radially disposed around said post; and
 - a clip which, when inserted onto said post, engages a stop surface of said post and compresses said spring,
- wherein said plurality of stop surfaces permits said spring to be variably compressed.
2. (Original) The restraint system of claim 1 further including a plurality of posts protruding from said backing plate, each post having a clip and a spring disposed thereon.
3. (Original) The restraint system of claim 1 further including four posts protruding from said backing plate and including stop surfaces, each post having a clip and a spring disposed thereon.
4. (Original) The restraint system of claim 2 wherein each post has an upper end distal from said backing plate and the clip for each post is pushed down over the upper end until the clips engage the stop surfaces of the posts.
5. (Original) The restraint system of claim 4 wherein said electronic component and circuit board are disposed between said backing plate and said

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springs and, as said springs are compressed by said clips, said electronic component is secured to said circuit board.

6. (Original) The restraint system of claim 5 further including heat sink also disposed between said backing plate and said springs, said heat sink further disposed between said electronic component and said springs.

7. (Previously Presented) The restraint system of claim 4 wherein said upper ends of said posts comprise tips formed between the distal end of the post and the stop surfaces, each tip having a smaller cross section at its distal end than at the stop surfaces.

8. (Original) The restraint system of claim 4 wherein said upper ends of said posts are substantially conically shaped.

9. (Previously Presented) The restraint system of claim 1 wherein said clip includes protruding members which define a hole in which said post is inserted, said protruding members are pushed apart as said clip is pushed along said post towards a stop surface.

10. (Canceled).

11. (Currently Amended) An electronic assembly, comprising:
a circuit board;
a backing plate;
a plurality of springs;
a plurality of posts extending from said backing plate through said circuit board and said springs;
an electronic component and heat sink sandwiched between said circuit board and said springs; and
a plurality of clips, one clip per post;

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wherein each clip ~~is adapted to~~ engages one of the posts in one of a plurality of different positions to compress one of said springs to one of a plurality of different compressive forces.

12. (Previously Presented) The circuit board of claim 11 wherein each clip engages said post in three different positions.

13. (Previously Presented) The circuit board of claim 11 in which each clip can compress one of said springs to three different positions on said post.

14.-19. (Canceled).

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20. (Currently Amended) A computer system, comprising:
a processor and heat sink;
an output device coupled to said processor;
a circuit board;
a backing plate;
a plurality of springs;
a plurality of posts extending from said backing plate through said circuit board and said springs;
said processor and heat sink disposed between said circuit board and said springs; and
a plurality of clips, one clip per post;
wherein each of said clips has clip members that are pushed apart to engage the posts in a plurality of different positions to variably compress the springs.

21. (Previously Presented) The computer system of claim 20 wherein in each of said clips, a portion of the clip is bent downward.

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22. (Previously Presented) The computer system of claim 21 wherein said portion of said clip that is bent downward limits the rotational movement of said clip relative to said post.

23. (Previously Presented) The computer system of claim 20 wherein said clip is fabricated from metal.

24. (Previously Presented) The computer system of claim 20 wherein upon removal of said clip from said post, said clip members return to an initial position.

25. (New) A method comprising:
compressing, substantially simultaneously, a plurality of springs that bias an electronic component into an interposer socket; and
locking, substantially simultaneously, a plurality of clips on a plurality of posts telescoped one each within the plurality of springs, the plurality of clips hold the plurality of springs in compression.

26. (New) The method as defined in claim 25 wherein compressing further comprises pressing an assembly plate, holding the plurality of clips, onto the plurality springs.

27. (New) The method as defined in claim 25 further comprising removing the assembly plate and leaving the plurality of clips locked to the plurality of posts.

28. (New) A system comprising:
a backing plate defining a plane, the backing plate having a plurality of posts extending substantially perpendicular from the backing plate and each post having a stop surface;
a circuit board having a plurality of apertures through which the plurality of posts extend;
an interposer socket on the circuit board within the apertures;

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a plurality of springs radially disposed around each of the plurality of posts;
an electronic component in operational relationship to the interposer
socket and biased toward the interposer socket by the springs;
an assembly plate holding a plurality of clips;
wherein each of the plurality of clips are inserted one each onto the
plurality of posts by placing the assembly plate over the plurality of
posts and compressing the springs; and
wherein the plurality of clips lock one each into the stop surfaces of the
posts, holding the springs in compression.

29. (New) The system as defined in claim 28 wherein assembly plate is removed leaving the clips locked to their respective posts.

30. (New) The system as defined in claim 28 further comprising said posts having a plurality of stop surfaces, and wherein the amount of compression of the springs is selectively set by the stop surfaces to which the clips lock.
